

Hair Transplant Surgery for Hair Disorders

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Hair Transplant Surgery

Disease Indications

YES

- Male-Pattern
- Female-Pattern
- Dormant LPP
- Secondary Cicatricial
- Traction Alopecia
- Triangular Alopecia

NO

- Telogen Effluvium
- Anagen Effluvium
- Alopecia Areata & Variants
- Active Primary Cicatricial
- Folliculitis Decalvans
- Lupus Erythematosis
- ? Any stage FFA ?
- Trichotillomania

Patient Selection



Examination: Young, likely further loss



Excellent

- Reasonable expectations
- Good to Excellent hair quality and donor density
- Low potential for further hair loss
- Good scalp laxity (FUT)
- Motivated to use medical therapy
- Females: specific area of hair loss (vs generalized)





Frontal Fibrosing Alopecia



Free Communications to the topic

- 16.30-16.40 **Hair transplant in frontal fibrosing alopecia: a multicenter review of 51 patients**
S. Vañó-Galván, E. Villodres, R. Pigem, R. Navarro, M. Asín, T. Meyer-González, R. Rodrigues-Barata, OM Moreno-Arrones, D. Saceda-Corralo, P. Bouhanna*, A. Camps
Hair Transplant Clinics from Madrid, Barcelona, Alicante and Malaga (Spain) and Bouhanna Hair Transplant Clinic* Paris (France)
- 16.40-16.50 **Eyebrow hair transplantation in frontal fibrosing alopecia: does it work?**
F. Jimenez, A. Audickaite
Mediteknia Dermatology and HT Clinic, Las Palmas de Gran Canaria, Spain
- 16.50- 17.00 **Transplantation of anagen hair follicles promotes remodelling of stretched scars**
M. Plotczyk*, G. Williams**, F. Jiménez***, CA. Higgins*
* Department of Bioengineering, Imperial College London, London SW7 2AZ; ** Farjo Hair Institute, London W1G 7LH; *** Mediteknia Dermatology and Hair Transplant Clinic, Las Palmas de Gran Canaria, Spain



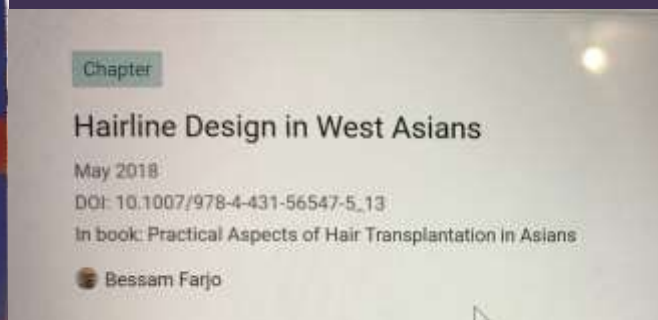
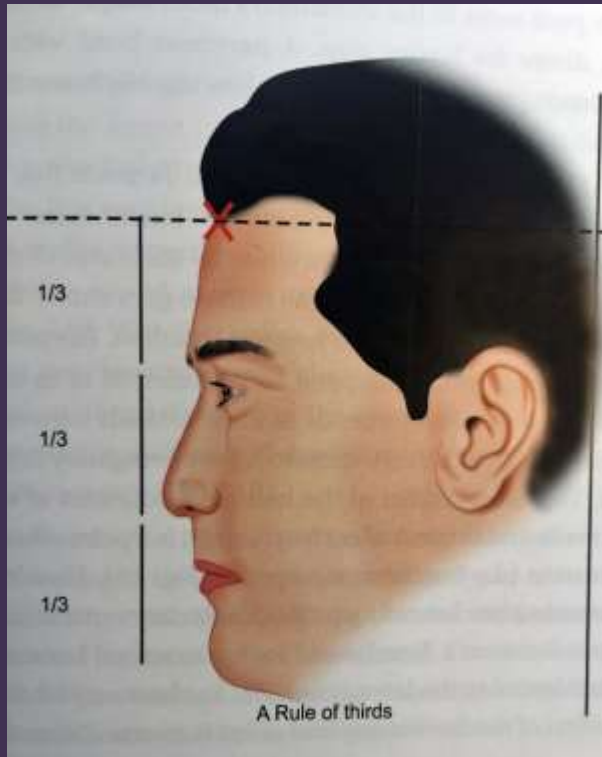
SCARRING ALOPECIA

LPP/FFA Koebner?



Hairline Design Trichion

(central & usually lowest point)



Peaks & troughs



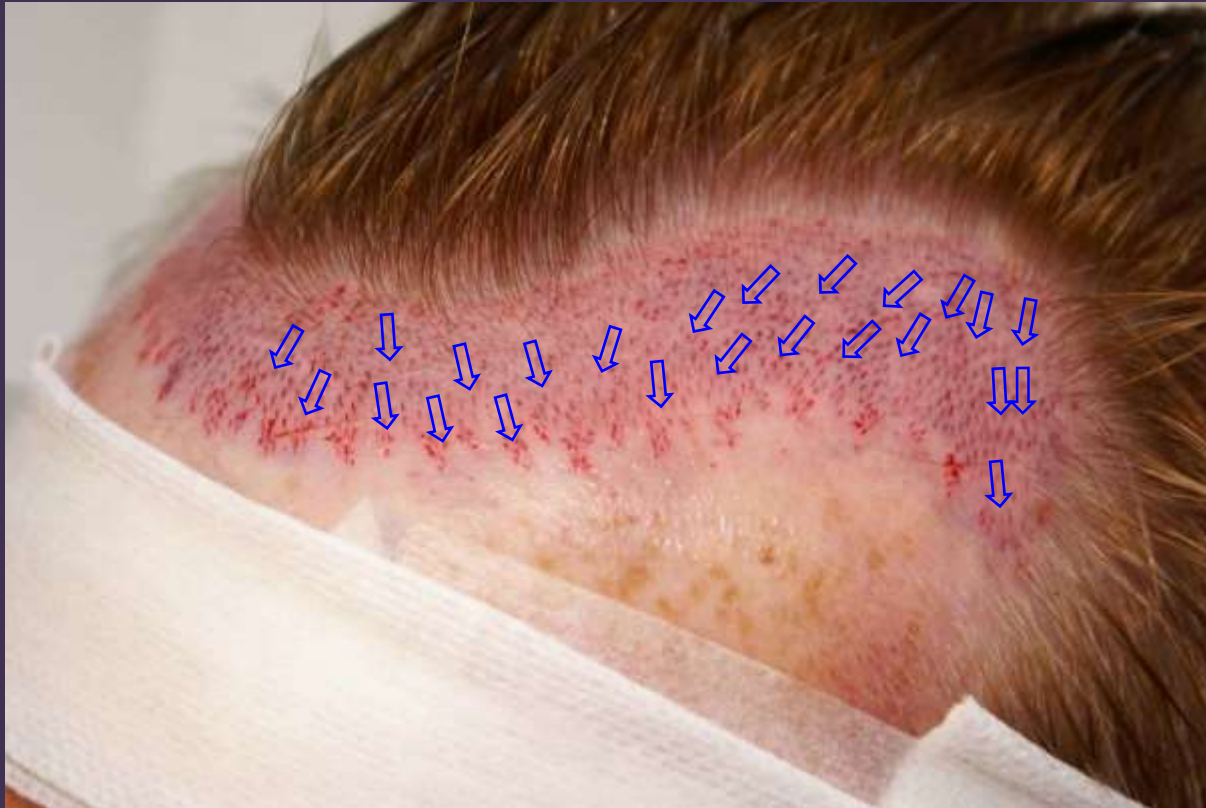
Donor Hair Assessment: Objective

- Hair loss progresses throughout one's life, and
- as such the permanent donor hair has to be assessed in a logical and scientific manner in order to 'future proof' the surgery.

Factors to consider when making recipient sites

- Recipient Sites determine the individual placement of the grafts
- Sites determine the overall aesthetic result of the hair transplant
 - Direction
 - Angle
 - Depth
 - Orientation
 - Geometry
 - Density

Site direction



Recipient Site density

- Dense packing - probably 40 grafts/cm² or above
- Studies showing undoubted significant reduced yield beyond 50 grafts

Clinics Review Articles	Article
FACIAL PLASTIC SURGERY CLINICS OF NORTH AMERICA	Dense Packing
Hair Restoration	August 2013 · Facial plastic surgery clinics of North America 21(3):431-6
EDITORS	DOI: 10.1016/j.fsc.2013.06.004
Raymond J. Konior Steven P. Gabel	Source · PubMed
CONSULTING EDITOR	 Bessam Farjo ·  Nilofer Farjo
J. Regan Thomas	

Incision density



4500 GRAFTS – 45 GRAFTS/CM² AVERAGE

2 Methods of Donor Harvesting

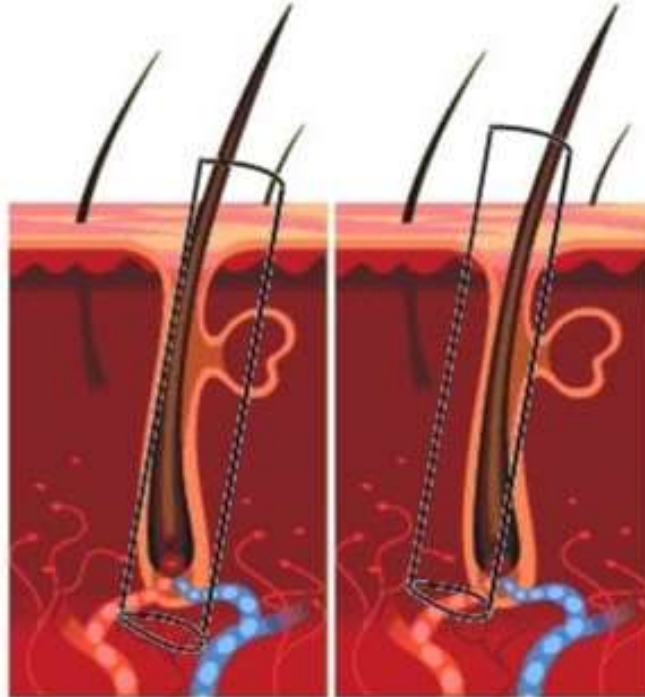
- Follicular Unit Extraction (FUE)
 - Manual or Mechanised
 - Automated Robot-Assisted
- Strip Technique (FUT)



Follicular Unit Excision (FUE)

- Method of harvesting the donor
- Use 0.7 – 1.2 mm manual or automated punches to extract individual follicular unit grafts
- Usually requires a full shave of the donor area
- Limited shaving or clipping for smaller numbers

Skill in reducing transection



Good angle of penetration of the slicing tool; the bulb is cut out in its entirety.

Poor angle of penetration causing a transection of the bulb, which makes it not viable.

Post operatively



Motorised (Non-Robotic) FUE



Motorised (Non-Robotic) FUE



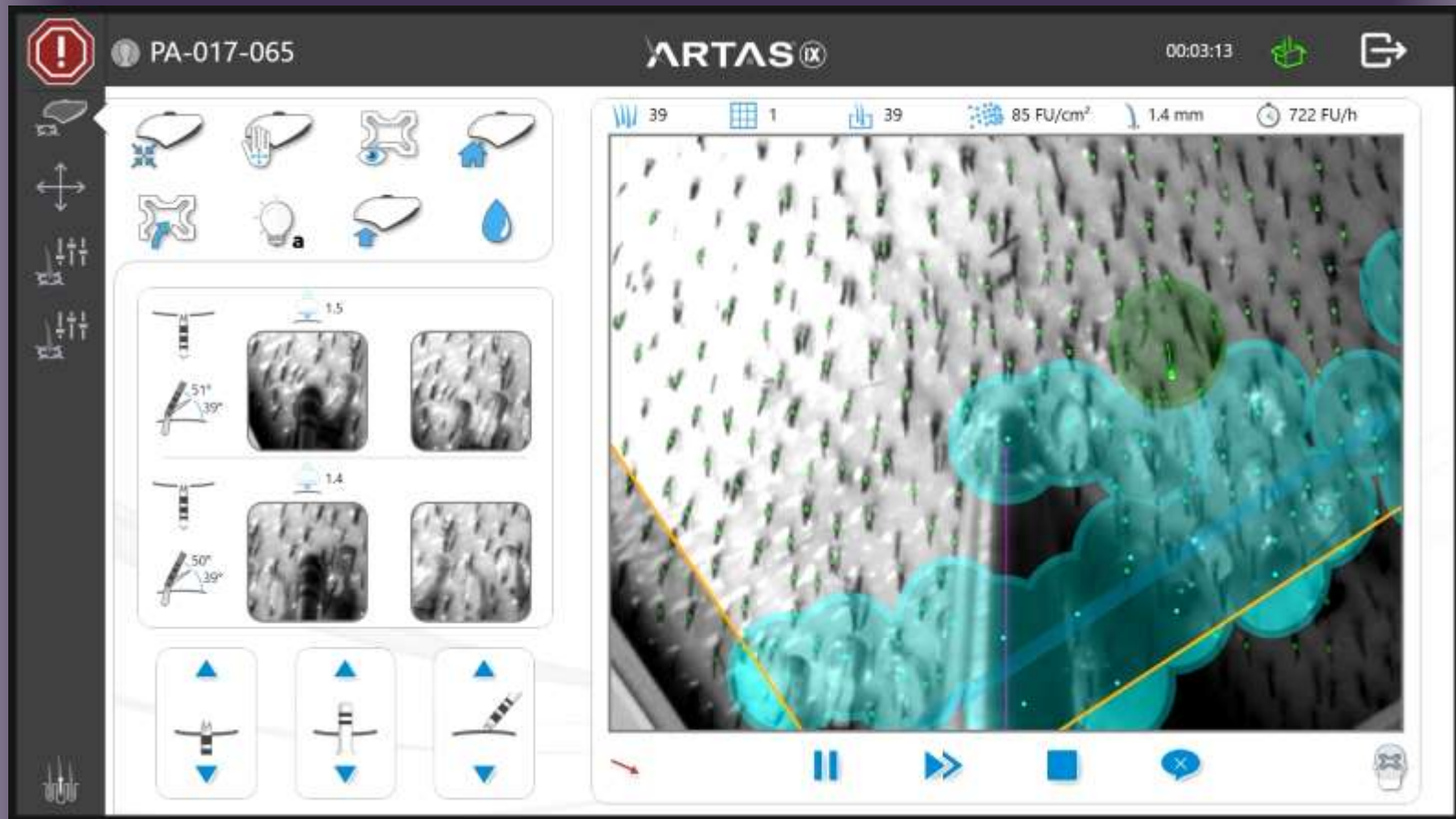
6-8x magnification ideal



The ARTAS[®] Robotic System



User Interface During Harvesting



**DERMATOLOGIC
SURGERY**

Robotic Follicular Unit Extraction in Hair Transplantation

Avram, Marc R. MD^{*}; Watkins, Shannon A. MD[†]

Dermatologic Surgery: December 2014 - Volume 40 - Issue 12 - p 1319-1327

doi: 10.1097/DSS.0000000000000191

Original Article

Strip FUT Harvesting Method

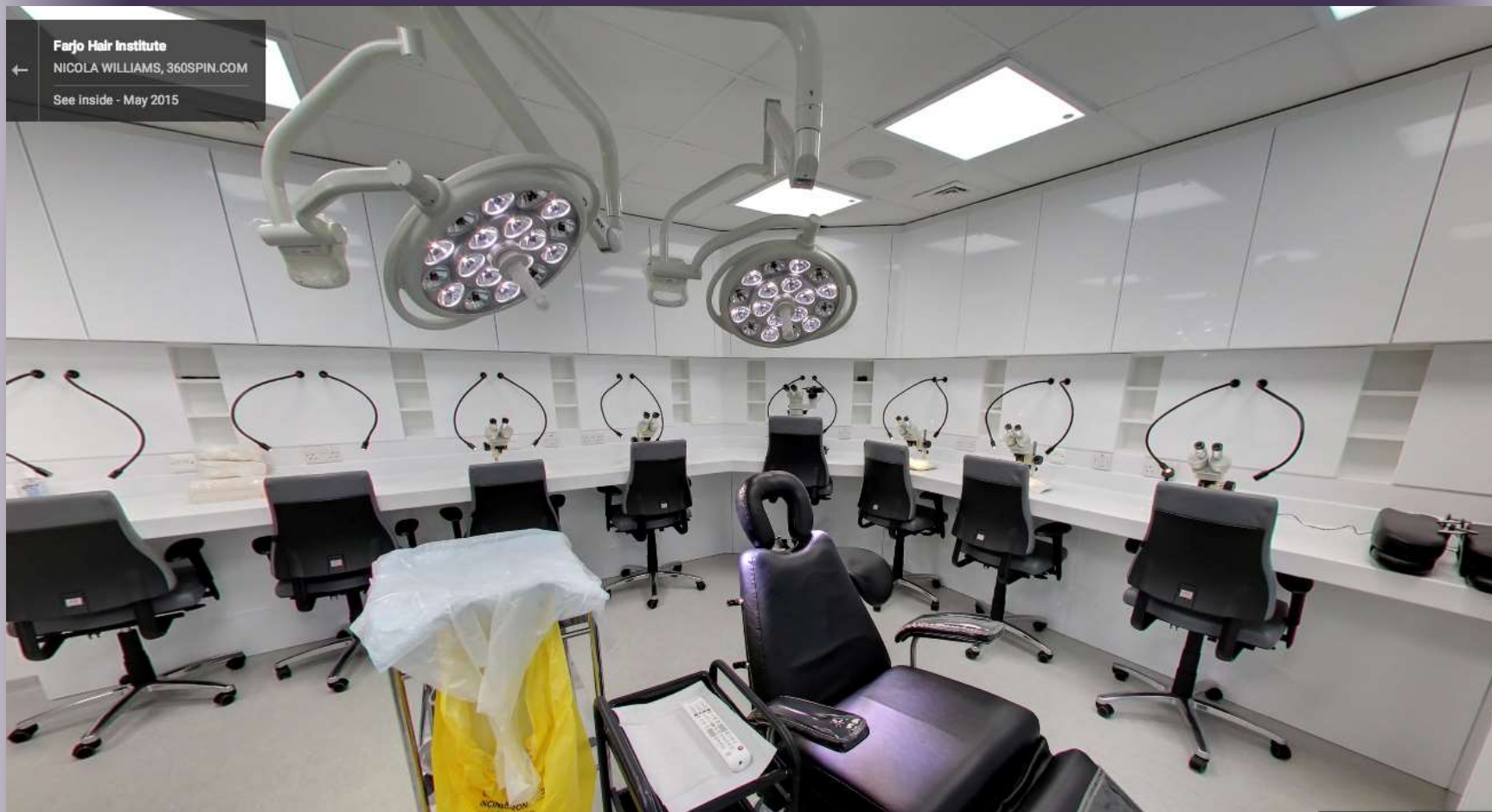
- Narrow, but long strip of skin graft excised from a dense central area
 - Should be able to completely cover with hair
- Strip is then microscopically dissected into individual grafts
- Usually needs larger set up and skilled technical staff



← **Farjo Hair Institute**

NICOLA WILLIAMS, 360SPIN.COM

See inside - May 2015



Typical Megasection Donor Site



Donor Scar with Trichophytic Closure



Available Graft Storage Solutions

IV solutions used for storage

- *Normal Saline*
- *Lactated Ringers*
- *Plasma-Lyte A (contains acetate and gluconate) ph 7.4*

Advanced tissue storage solutions

- *Hypothermasol (hypothermic) ph 7.6*
- *Custodial*
- *Marshall's*
- *2-8CELLsius*

Culture media (not licensed for clinical use)

- *DMEM (Dulbecco's Modified Eagle's Medium)*
- *William's E media*

References

- Parsley W, Perez-Meza D. Review of factors affecting the growth and survival of follicular grafts. *J Cutan Aesthet Surg.* 2010;3(2):69-75
- Philpott MP, Kealey T. Hair Follicles engage in aerobic glycolysis and do not demonstrate the glucose fatty acid cycle. *J Invest Dermatol.* 1991;96(6):875-9
- Mathew A. A review of cellular biopreservation considerations during hair transplantation. *Hair transplant forum int.* 2013;23:1
- Krugluger W, Moser K, Moser C, Laciak K, Hugeneck J. Enhancement of in vitro hair shaft elongation in follicles stored in buffers that prevent follicle cell apoptosis. *Dermatol Surg.* 2004;30(1):1-5
- Wise ES, Hocking KM, Eagle S, Absi T, Komalavilas P, Cheung-Flynn J, Brophy CM. Preservation solution impacts physiological function and cellular viability of human saphenous vein graft. *Surgery*, 2015;158(2):537-46

Placing with Implanters



Female Pattern, Surgical Issues: Limitation of donor

→ Usually 1200 – 2000 grafts per op

- The parietal area is commonly thinning as well
- The scalp is generally tighter than men
- The suitable occipital area is narrow and low



EYEBROW AUGMENTATION in Ulerythema Oopheregenes

Before

After



JPRAS
An International Journal of Surgical Reconstruction

J Plast Reconstr Aesthet Surg. 2011 Dec;64(12):e303-5. doi: 10.1016/j.bjps.2011.06.009. Epub 2011 Jul 2.

Eyebrow reconstruction in dormant keratosis pilaris atrophicans.

Miranda BH¹, Farjo N, Farjo B.

⊕ Author information

Burn Alopecia

Before



After




scars burns
& healing



Scars Burn Heal. 2015 Oct 1;1:2059513115607764. doi: 10.1177/2059513115607764. eCollection 2015 Jan-Dec.

Hair transplantation in burn scar alopecia.

Farjo B¹, Farjo N¹, Williams G¹.

 Author information

Beard & Moustache Burns



Temporal Triangular Alopecia

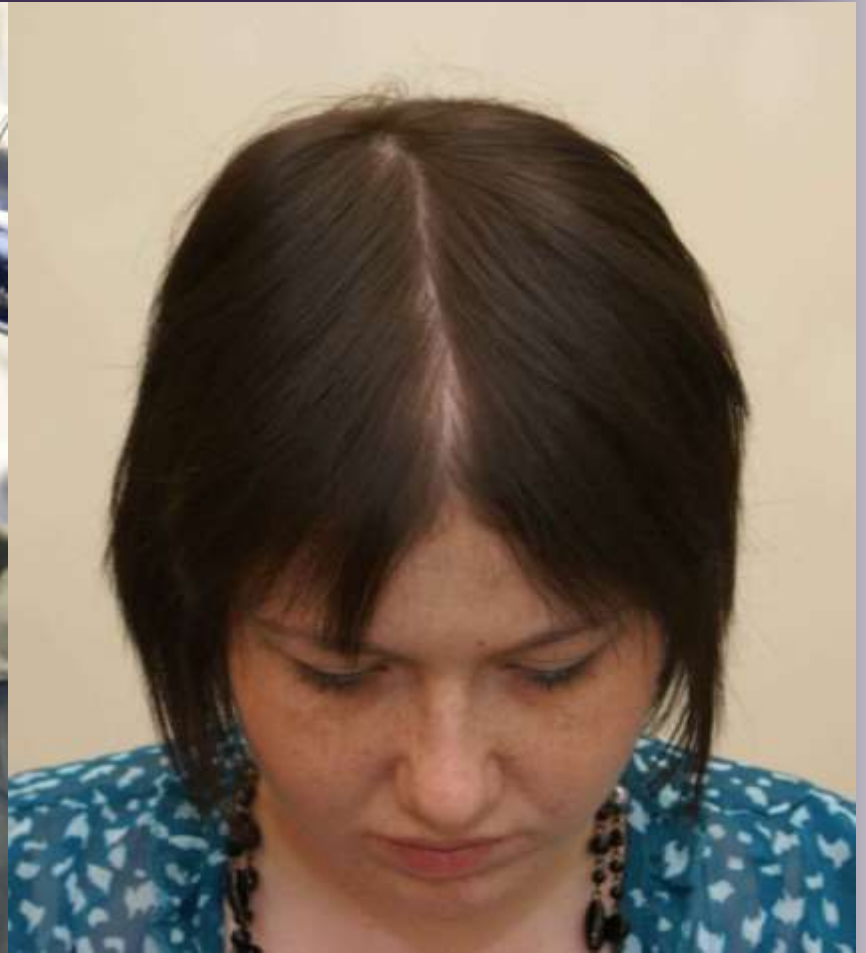
Close up before and after



Traction Alopecia



POST RADIOTHERAPY



Thank you!

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